MEDICAL

AND

PHILOSOPHICAL

COMMENTARIES.

By a SOCIETY in EDINBURGH.

Natura munera ſua non ſimul tradit; nec omnibus patent: Reducta ſunt, et in interiori ſacrario clauſa; ex quibus aliud haec aetas, aliud poſtera accipit, et depromit. SENECA.

VOLUME THIRD.

PART I.

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As a Teſtimony of Gratitude and Eſteem,

This Volume of the

MEDICAL COMMENTARIES

IS HUMBLY INSCRIBED TO

WILLIAM FULLERTON, ESQ;

Of CARSTAIRS;

By his

Moſt obedient Servants,

The AUTHORS.

Non poſſidentem multa vocaveris
Recte beatum: Rectius occupat
Nomen beati qui deorum
Muneribus ſapienter uti
——callet. HORAT.

PREFACE.

AFTER the publication of two volumes, we may reaſonably preſume, that none of our readers are unacquainted with the nature and intention of this Work. They have even ſufficient grounds for determining how far it is fitted to anſwer the purpoſe for which it was undertaken. And they will, we doubt not, have diſcovered many errors in the execution of it. But we may venture to aſſert, that none of them are more ſenſible of its imperfections, than we ourſelves are.

We mean not, however, to inſinuate that our labours are void of utility. We have, it is true, undertaken a taſk, to which, from the preſent ſtate of ſcience in general, and from the almoſt innumerable channels by which Medical and Philoſophical diſcoveries are now communicated to the public, our abilities are unequal. But, from theſe very circumſtances, till greater induſtry and ſuperior judgment be employed in the execution of a ſimilar plan, this work, if conducted with impartiality and attention, muſt be extenſively uſeful. As we preſume not to ſet up our own judgement for a ſtandard of truth, we are but little expoſed to the charge of partiality. And although it becomes us not to ſpeak of the diſcernment which may appear in the execution of this work, yet we are conſcious of the labour which has been beſtowed upon it. Upon this ſcore, we cannot help thinking, that we have ſome claim to merit.

It is, we preſume, unneceſſary for us to promiſe, that the ſame induſtry, which has formerly been exerted, ſhall hereafter be continued. In this particular, our own intereſt is inſeparably connected with that of our readers. It ſhall always be our endeavour that each number appear at the ſtated periods which were formerly mentioned. But, from the concurrence of ſeveral circumſtances, eſpecially the abſence of Dr Hamilton, and the appointment of Dr Duncan to teach, for this winter, the Inſtitutions of Medicine in the univerſity of Edinburgh, and to give a part of the Clinical Lectures in the royal infirmary there, the publication of our next number muſt neceſſarily be delayed for a longer interval than uſual.

It may be expected, that we ſhould take this opportunity of publicly returning thanks to thoſe gentlemen who have ſupplied us with original obſervations, and medical news. But they have already received acknowledgments, though more private, yet not leſs ſincere. And to thoſe, whoſe good intentions have favoured us with materials which could not be admitted, we hope we have aſſigned ſatisfactory reaſons for our conduct.

We imagine it would be ſuperfluous to ſay any thing, with a view of inſtigating the attentive and humane to lend their aid to a work which is intended for the public good. While, therefore, we have reaſon to hope for the continuance of favours from our former correſpondents, we flatter ourſelves we may likewiſe expect the aſſiſtance of others. And there are few careful obſervers, whoſe practice will not at times preſent them with intereſting and unknown facts.

MEDICAL COMMENTARIES.

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SECT. I.

An Account of Books.

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I.

Cornelii Pereboom, *Med. Doct. Academ. Natur. Curioſ. Sod. De Paralyſi imprimis Nervea Diſſertatio.* 8vo, Hornae.

THE author of this diſſertation is already well known to the learned world, by many former publications. The index which he compiled to the edition of Dr Boerhaave's Methodus Studii Medici, publiſhed by Dr Haller, will be a laſting monument of his induſtry. And, in the preſent work, our readers have a ſpecimen of his abilities in the theory and practice of medicine.

After ſome general obſervations on the ſtructure of the nerves, which he confirms by the authority of anatomiſts of great credit, he obſerves, that ſome nerves are entirely ſubſervient to the purpoſes of ſenſe. Others lead to organs fitted for motion; but, whether theſe be univerſally ſenſible or not, he does not pretend to determine. He quotes, from Boerhaave and Haller, inſtances where particular nerves have been entirely deſtroyed by diſeaſe, without any pain. But, whether they have any degree of ſenſe or not, he thinks it at leaſt evident, that, in their natural ſtate, they are inſenſible to the ordinary actions of the human body. And he is, upon the whole, inclined to adopt the opinion of Heiſter, that, from a diſeaſed ſtate of ſome nerves, there will ariſe a loſs of motion; and, of others, a want of ſenſibility.

Having premiſed theſe remarks, he defines palſy, a diſeaſed ſtate of any part of the human ſyſtem, in which ſenſibility or mobility organically fail. He terms palſy an *organic failure*, with a view of diſtinguiſhing it from mechanical defects. He objects to the definition of thoſe who have fixed upon a laxity of parts as a diagnoſtic ſign of palſy; becauſe he maintains that this diſeaſe frequently ariſes from ſchirrus of the muſcles or from ſarcoma.

He ſubdivides the genus Palſy into three ſpecies, the Nervous, the Muſcular, and the Nerveo-muſcular. By the nervous, he means that ſtate of the diſeaſe, where there is a depravation of ſenſe, without loſs of motion; by the muſcular, a loſs of motion, while ſenſibility remains; and, by the nerveo-muſcular, an affection both of ſenſe and motion. He obſerves, that authors have divided palſy into the perfect and imperfect. In the one caſe, ſenſe, or motion, or both, are entirely obliterated; in the other, they are only diminiſhed.

Having pointed out theſe different ſpecies of palſy, the author next preſents us with ſome remarks on their cauſes, and chiefly on thoſe which induce what he terms the *nervous palſy*. This laſt ſpecies may, he obſerves, be induced by every cauſe interrupting the connexion between the ſenſorium and the papillae at the extremities of nerves. Among others, he enumerates compreſſion, calloſity of the ſkin, ſphacelus, plethora, morbid acrimony, particularly of the ſcorbutic kind. In proof of this laſt cauſe, he relates two caſes, and adduces ſeveral obſervations from different practical authors. Another claſs of cauſes,

ſes, beſides thoſe ariſing from compreſſion, are ſuch as may be referred to the conſent of nerves. To this head, he refers palſy from worms, from terror, and from other ſimilar affections of the mind. The laſt ſet of cauſes are thoſe from inanition; to this, he aſcribes the palſy occurring in old age, from acute diſeaſes, from phthiſis pulmonalis, and other ſimilar circumſtances, by which patients are much exhauſted.

In the ſecond part of this diſſertation, the author treats of the cure of nervous palſy. He obſerves, that this is a diſeaſe which admits not of the removal of ſymptoms, or of a palliative cure; that the only method of affording relief is by the removal of the cauſe; and that thoſe palſies only are curable, where the cauſe is of ſuch a nature that it can be removed.

For the removal of ſome obſtructions producing palſy, he lays it down, as an indication, that the ſtagnating matter ſhould be diſcharged. With this view, he propoſes exciting evacuation by the ſkin; and this, he obſerves, may be effected, by drinking large quantities of diluting liquors, and fomenting with the vapour ariſing from burning ſpirits. Another means of exciting ſweat, which he has found very ſucceſsful in his own practice is, the uſe of the decoction of guaiac. This he recommends to the quantity of a pound every day, together with frictions of the affected part, with the following liniment. ℞ Sal. Tartar. ʒ vi. Sap. Venet. ℥ i. diſſolv. in Aq. tepid. ℥ x. Deinde admiſce Ol. Terebinth. ℥ iſs. Spt juniper. ℥ i. Ol. cajaput. ʒ ii. M. ſ. a.

Another mode of evacuation, which has been found ſerviceable in palſy is, by the belly. With this intention, the author recommends rhubarb, to the quantity of a ſcruple, or half a dram, every ſecond day. In caſes of plethora, he found blood-letting of great utility; but he has obſerved it to do manifeſt miſchief, in that ſpecies of nervous palſy ariſing from ſcurvy. To theſe evacuants, he propoſes that medicines, correcting, attenuating, and reſolving viſcid humours, ſhould be conjoined. For this purpoſe, he adviſes the ſpiritus cochleariae, and ſpiritus ſalis ammoniaci. In caſes where there is any obſtruction to the circulation on the ſurface of the body, which can be removed by relaxation, he propoſes warm bathing, conjoining with it wine and Peruvian bark to ſtrengthen the ſyſtem. Where, on the other hand, there is too great laxity, he obſerves, that cold bathing has been much recommended, and that it has been found particularly uſeful to expoſe the affected part to a fall of water. Much benefit, he affirms, may often be reaped from a temporary fever; and, upon this principle, he explains the action of ſcarification, cupping, bliſters, whipping with nettles, &c. But the remedies which he believes to be of all others the moſt powerful in this diſeaſe, are frictions and electricity. In proof their efficacy, he quotes a great number of caſes related by different practical authors, in which they have proved ſucceſsful. With regard to the uſe of electricity, he obſerves, that, when the matter compreſſing the nerves is impacted in their blood-veſſels, ſlight ſhocks only ſhould be given, leſt, the veſſels being burſt, an ecchymoſis ſhould be formed, giving a ſtill ſtronger compreſſion. But, when the obſtructing matter is lodged in the cellular ſubſtance ſurrounding the nerves, violent ſhocks are neceſſary, that abſorption may be more effectually promoted.

When a nervous palſy proceeds from inanition, induced by old age, little benefit can be expected from medicines. When it happens from long continued diſeaſes, it is to be removed by nutrient and reſtorative medicines.

II.

Diſſertatio Medica de Dulcamara. Auctore Georgio Hallenberg. 4to, Upſaliae.

AFTER ſome general obſervations on the improvement which medicine has lately received, on the defects under which it ſtill labours, and on the cauſes of theſe imperfections, which our author refers to three heads, the ſubtilty of phyſiology, the defects of pathology, and the neglect of the materia medica, he proceeds to treat more particularly of the night-ſhade. He introduces his ſubject, by narrating the various names that have been aſſigned to this plant by different authors. To this, he ſubjoins a particular deſcription of the dulcamara, which, he obſerves, is the ſolanum dulcamara caule inermi, fruteſcente, flexuoſo, foliis ſuperioribus haſtatis, racemis cymoſis, of Linnaeus.

Mr Hallenberg affirms, that the whole genus of ſolanum, in its natural ſtate, contains ſomething

thing adverſe to nature, although he allows that ſome ſpecies of it, when dreſſed, may be eat with ſafety. The parts of the plant which he propoſes for uſe are the ſtalks, throwing aſide the root, leaves, flowers, and berries. The taſte of theſe ſtalks is a mixture of ſweet and bitter. Upon a very ſlight decoction, they yield a ſweet taſted liquor; but, if the boiling be continued, it loſes this ſweetneſs, and acquires a bitter taſte.

The ſtalks, both in powder and decoction, evidently poſſeſs the qualities of the plant; although they have a much ſlighter degree of virulence than the other parts of it. He adviſes that the ſtalks be gathered either early in the ſpring, or in the end of autumn, when the leaves are void both of ſmell and taſte. The form in which he recommends its being uſed is that of decoction. He directs, that, upon two drams of the ſtalks, dried and ſliced, a pint of boiling water ſhould be poured, which, after ſtanding at reſt for half an hour, muſt be put upon the fire, till it boil for the eighth part of an hour. By this method of preparation, he affirms, that its medical virtues are beſt extracted. When a patient firſt begins the uſe of this medicine, he adviſes, that a little milk ſhould be mixed with it. Two tea-cupfuls of this decoction

coction are to be taken morning and evening; and after it has been uſed for three or four days, the ſtomachs of moſt patients will bear a ſtronger decoction, without ſickneſs or any other inconvenience, although no milk be added to it.

After theſe obſervations on the method of preparing and uſing the night-ſhade, the author next proceeds to treat of its uſe in medicine. He is of opinion, that there are few medicines in the materia medica better fitted for purifying the general maſs of fluids, by different evacuations, particularly by diureſis. He has, himſelf, frequently employed it with ſucceſs, in violent iſchiatic and rheumatic pains. In proof of its efficacy in jaundice, he cites the authority of Tragus, Vierius, and Rothonan; and its ſucceſs in ſcurvy has been confirmed by Linnaeus and Sauvages. Beſides theſe diſeaſes, he further recommends it as uſeful againſt ſuppreſſed menſtrua, and lochia, contuſions, itch, and lues venerea. The good effects, which may be obtained from it in this laſt diſeaſe, he endeavours to confirm, by narrating a caſe which fell under the management of Linnaeus. He concludes with obſerving, that, from the active powers it poſſeſſes, it is probable it may be uſed with advantage in many other diſeaſes.

III.

Diſſertatio Medica de Stramonii Uſu in Morbis Convulſivis. Auctore Adolph. Fried. Wedenberg. 4to, Upſaliae.

AS an introduction to this diſſertation, the author mentions the opinions entertained with regard to Stramonium, by many eminent writers. They all agree that it poſſeſſes ſtrong narcotic powers, inducing ſleep, and, on ſome occaſions, diſturbing the mind, ſo far as to excite madneſs, remaining afterwards for life. Kempfer, and Proſper Alpinus mention, that the Turks and Indians, who are prohibited from wine, uſe it with a view of exhilarating. They allow, however, that, when exhibited in more conſiderable doſes, it excites vertigo, madneſs, and profound ſleep.

But, however deleterious ſtramonium may be, when imprudently exhibited, if given with proper caution, its uſe is attended with the beſt effects. To inveſtigate the principles upon which its activity depends, the author made the following trials. Upon ten drams of the extract of ſtramonium, dried by a gentle heat, and reduced to a powder, he poured a quantity of rectified ſpirit of wine, and allowed it to digeſt for ſome days. Having decanted the ſolution, which was green, he put upon the reſiduum a freſh quantity of ſpirit of wine; and repeated this proceſs, till the ſpirit acquired no tinge from it. Theſe ſolutions, being all mixed together, were evaporated to dryneſs, by a gentle heat. While this was performing, a heavy nauſeous odor exhaled from the liquor. Four ſcruples and a half of reſinous extract were obtained.

The matter which remained after the ſpirituous ſolutions were made, was treated in the ſame manner by warm water, as it had formerly been by ſpirit of wine. And all the watry ſolutions being mixed, and evaporated to dryneſs, three drams and one ſcruple of gummy extract were obtained.

What remained of the original maſs, after theſe ſolutions, was neither gummy nor reſinous, but an inert, inſipid earth, of a grayiſh colour. From theſe trials, Mr Wedenberg concludes, that, beſides reſinous and gummy parts, ſtramonium contains alſo a volatile ill-ſmelling matter, part of which is exhaled, during the evaporation; but that part of it remains both with the reſinous and gummy extract, is evident from their ſmell and taſte. From diſſolving the watery extract, evaporating it to a certain degree, and afterwards placing it in a cold ſituation, it further appears, that ſtramonium contains ſaline particles, which, from their detonation in the fire, the author concludes to be nitrous. He obſerves, however, that he could not, upon every trial, obtain this ſaline matter.

After theſe obſervations on the principles which ſtramonium contains, Mr Wedenberg proceeds to give a phyſiological explanation of its action. The firſt effects it produces, which are of a ſedative nature, he aſcribes to its volatile principle acting upon the nerves of the ſtomach. From the gummy and reſinous parts conjoined with this volatile principle, acting upon the inteſtines, he ſuppoſes that the whole inteſtinal canal is thrown into unuſual contractions, which neceſſarily produces a quickened circulation. To this cauſe he refers all the augmented excretions, as copious ſweating, increaſed flow of urine, looſeneſs, and haemorrhagies, which ſtramonium will ſometimes occaſion. And, in caſes when a larger doſe is given, he ſuppoſes that a rupture of ſome of the tender veſſels in the brain, from the accelerated circulation, produces the vertigo, apoplexy, convulſions, palſy, and other fatal ſymptoms.

After theſe obſervations on the operation of ſtramonium, the author thinks it neceſſary, before conſidering its uſe in convulſive diſeaſes, to give ſome general idea of convulſions. He divides them into tonic or clonic, univerſal or partial, primary or ſymptomatic. The cauſes from which they proceed, he refers to three general heads, Repletion, Inanition, and Irritation. To the firſt head, he refers plethora, inflammatory and exanthematic fevers, ſuppreſſed evacuations, &c. To the ſecond, he refers exceſſive looſeneſs, intenſe ſtudy, great fatigue, and hunger. And to the third, paſſions of the mind, injuries to nerves from external cauſes, dentition, titillation, and a variety of other ſimilar cauſes. In proof that convulſions have, at different times, ariſen from each of theſe cauſes, he produces the authority of ſome eminent practitioner.

From conſidering the operation of ſtramonium, and the cauſe of convulſions, Mr Wedenberg concludes, that it will be of uſe, when the diſeaſe ariſes from ſaburra in the inteſtines, univerſal depravity of the humours, the ſuppreſſion of uſual evacuations, or ſlight obſtructions of the inteſtines without ſchirrus. To confirm this account, he ſubjoins the hiſtories of four caſes, in which he employed it with ſucceſs.

The firſt caſe is that of a lady, unmarried, and about twenty-two years of age, who, for the ſpace of three months, was almoſt every day affected with convulſions, ſometimes violent, ſometimes ſlight, which began with a fever and faintings. As ſhe was troubled with aſcarides, Mr Wedenberg imagined they might proceed from that cauſe, and ordered anthelmintics, but without any good effect. He then thought of trying the ſtramonium; but, as his patient was plethoric, he premiſed a bleeding, and the uſe of ſome nitrous and diluent medicines. He then began her with pills of the ſtramonium, of two grains each, one of which was taken thrice every day. The doſe was afterwards gradually increaſed, till ſhe took eight pills in the day. By this means, her convulſions were greatly mitigated, ſo that nothing almoſt remained but ſlight faintings. This doſe of pills was continued till the fortieth day, by which time her ſleep became more quiet, her appetite was improved; and her convulſive complaints entirely ceaſed.

The ſecond caſe is that of a young woman, twenty-two years of age, who, for the ſpace of four weeks, had been affected with faintings, without convulſions. After that, ſhe was, for three weeks, diſtreſſed with violent convulſions. She then began the uſe of the ſtramonium in pills, of two grains, three times every day. She was at the ſame time ordered nitrous powders, to be taken frequently, and the warm bath every third day. The doſe of the ſtramonium was increaſed to ſix pills every day, which operated both by ſweat and ſtool. By continuing the medicine for ſome time, ſhe was perfectly cured.

The third caſe is that of a girl, ſixteen years of age, who, in conſequence of a fright, was ſeized with convulſions. After her diſeaſe had laſted for four months, and ſhe had tried a variety of medicines preſcribed by another phyſician, Mr Wedenberg was called. After purging his patient, he ordered two grains of the ſtramonium to be taken twice every day, and ſome nitrous powders. The doſe was gradually increaſed, till ſhe took eight pills a-day; by this ſhe was affected with heavineſs in her head, and colic pains.

But, after ſhe had perſiſted in the uſe of the medicine for twenty-ſix days, her convulſions intirely ceaſed, her appetite returned, and ſhe recovered her former health and ſtrength.

The fourth and laſt caſe is, that of a girl, thirteen years of age, who had been affected with convulſions for four months, when our author's aſſiſtance was aſked. He began her with the ſtramonium pills, in his uſual manner; but, a fever ſupervening on the ſeventh day, he was obliged to intermit them. Ten days after, ſhe again returned to the uſe of them, and took to the extent of eight pills every day. After continuing them for three weeks, during which ſpace ſhe uſed the warm bath four times, ſhe was perfectly recovered.

IV.

Recherches ſur les Modifications de l'Atmoſphere; contenant l'Hiſtoire critique du Barometer et du Thermometer; un traité ſur la conſtruction de ces inſtrumens, des Experiences relatives à leurs uſages, et principalement à la meſure des hauteurs, et à la Correction des Refractions moyennes, avec figures. Par J. A. de Luc, *Citoyen de Geneve, Correſp. des Academ. Royales des Sciences de Paris et de Montpellier*, tom. 2. 4to, Geneve.

WE have already preſented our readers with an analyſis of the firſt volume of this work*; and it was our intention to have given, ſoon after, an account of the ſecond. It has, however, from an accident, which could not be prevented, been delayed much longer than was intended. This, we hope, the indulgence of our readers will forgive.

Having in the former volume finiſhed the two firſt parts of his work, the author proceeds, in that now before us, to the third. In this he gives an account of his farther improvements on the barometer; his method of purging the mercury of air; and his various attempts to prevent it from eſcaping from the tube, in order to render the barometer portable. In this he at length ſo far ſucceeded, as to enable it to bear very conſiderable ſhocks, and to admit of being carried on horſeback, though he was unable to make it ſtand the jolting of a chaiſe.

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* Vid. vol. 1. p. 374.

In the fourth part, the author treats of the means of diſcovering the denſity of the air, in any place, and at any time; and of the application of this to the meaſuring of heights by the barometer. In the firſt chapter, we have the account of a phaenomenon, both curious and important. Upon meaſuring a mountain, having obſerved the height of the mercury in his barometer, two different times, at the ſame ſtation, on the ſame day, he found it ſtood lower the ſecond time than the firſt. When he returned to the plain, he was informed a variation, quite contrary, had taken place in the barometer which he left there. And afterwards, upon repeated trials, he found, that, as the heat increaſed, the mercury roſe in the barometer in the mountain, and fell in that of the plain; as the heat decreaſed, the contrary variation took place. After ſhewing that heat may occaſion theſe contrary variations, from a quantity being forced from the plain to the mountain, he obſerves, that, in order to meaſure the height of mountains exactly, by the barometer, it is neceſſary to pay attention to this circumſtance, and to know the heat of the air at the time of obſervation, both in the plain and upon the mountain.

Mr de Luc next mentions the objections to ordinary thermometers for meaſuring the heat of the air; and propoſes a method for conſtructing one which may be fit for this purpoſe. He then endeavours to inveſtigate the laws which the dilatations of the air obſerve, as influenced by heat. From theſe laws he attempts to deduce a general rule, to be obſerved in the meaſuring of acceſſible heights by the barometer.

We are next preſented with a number of obſervations made upon the mountain Saleve, and other places in the neighbourhood of Geneva. After relating theſe experiments, he points out the difficulties which he was ſtill unable to overcome, and which prevented him from arriving at perfect exactneſs in meaſuring heights by the barometer. Theſe difficulties proceed from the nature of the inſtrument; from the difficulty of determining the influence of heat upon the denſity of the air; from the nature of the air; and from the effects of vapours.

After this, we have an eſſay upon the cauſes of the variations of the barometer in the ſame place, and an explanation of the principal phaenomena which accompany theſe variations. Mr de Luc remarks, that his obſervations on the mountain Saleve, and other places, led him to imagine, that theſe variations might be occaſioned by cauſes which have not always an equal influence on the weight of the atmoſphere: That the region of exhalations and vapours might be ſubject to viciſſitudes of dilatation and condenſation, which cannot be ſubjected to any general laws; and that the air might be ſubject to mixtures, which can render its elaſticity variable. Finding that, when the barometer in the plain was below its medium height, his obſervations never gave too much but generally too little elevation to the mountain; and that, on the contrary, when the barometer on the plain was above its medium height, the obſervations generally gave too much; he ſaw it was not only neceſſary to know, by the height of the barometer, the weight which compreſſes the column of air, and by the thermometer, its temperature at the time; but that attention muſt alſo be paid to the variations of the barometer itſelf. Theſe circumſtances led him to inquire into the principal cauſes of the variations of the barometer.

He begins, by obſerving, that, if heat be allowed to be the immediate cauſe of evaporation, the vapours which are produced muſt be ſpecifically lighter than the air, in whatever way the igneous fluid may combine itſelf with water. He next attempts to confute the opinion, that evaporation is produced by the air acting as a menſtruum to water, and refers it intirely to heat. He then proceeds to ſhow how vapours are the occaſion of variations in the barometer. The vapours continually diſcharged from the ſea muſt riſe by their levity; but, at the ſame time, they are ſtopped when the difference between their ſpecific gravity and that of the air is not ſufficient to overcome the reſiſtence with which the air oppoſes the ſeparation of its parts. The vapours being thus detained, a column of air contains a fluid which has ſpecifically leſs gravity than itſelf; hence the mercury in the barometer muſt fall.

After eſtabliſhing this opinion, he proceeds to explain various phaenomena which have a relation to the variations of the barometer, and to reconcile them to his hypotheſis. The chief of theſe phaenomena are the formation of clouds; the cauſes of rain, dew, and hoar-froſt; the influence of winds; the cauſe of rain while the mercury is ſtationary, or even riſing; and the reaſon why the variations of the barometer are greater in northern latitudes than under the equator.

After giving an account of the method of levelling roads by the barometer, he concludes this fourth part of his work, by examining the obſervations made by ſeveral eminent philoſophers in different parts of the world. From this examination he ſhews, that the dilatations of the air obſerve the ſame laws at every height and in every climate.

In the fifth part, we are preſented with ſome general reflections on the utility of barometrical obſervations. He introduces his ſubject, by obſerving, that, although the meaſuring of heights was his principal object, yet the diſcoveries which he has made in this purſuit may be of uſe, wherever the weight, denſity, or elaſticity of the atmoſphere have any influence. He proceeds to make ſome particular application of the principles which he had laid down, and points out a method of diſcovering with certainty the actual ſpecific gravity of the air. He applies the ſame principles for determining the total weight of the atmoſphere, and the differences in refraction which the rays of light muſt undergo from thoſe changes which take place in the ſtate of the air.

In oppoſition to the opinion of Caſſini, who, for want of proper meteorological inſtruments, had concluded, that the part of the air which occaſions refractions, had no connection with that which occaſions its weight, Mr de la Caille has demonſtrated the neceſſity of correcting refractions in conſequence of the different ſtates in the atmoſphere. Mr Mayer agreed with Mr de la Caille in imagining the refractions of the rays of light to be proportioned to the variations of the thermometer; but they differed with regard to the influence of heat. Mr Mayer thought that a variation of ten degrees in Reaumer's thermometer correſponded to a change of $\frac{1}{22}$ in the refraction. Mr de la Caille believed, that it correſponded only to $\frac{1}{27}$. Mr De Luc attempts to diſcover the cauſe of the difference between theſe two philoſophers. He obſerves, that refractions are affected by changes which take place in the denſity of the air; but that theſe are produced by two very different cauſes. 1*ſt*, By the difference of the weight which preſſes upon the air. And, 2*dly*, by the reſiſtance to that preſſure. The firſt of theſe is diſcovered by the barometer, the ſecond by the thermometer.

To this work is ſubjoined a long ſupplement, concerning the variations in the heat of boiling water. It contains many curious obſervations; but of theſe the limits of our publication will not allow us to give any account.

V.

Experimental Inquiries, Part Second; containing a Deſcription of the Lymphatic Syſtem in the Human Subject, and other Animals; illuſtrated with Plates. By William Hewſon, *F. R. S.*

NO part of the animal oeconomy has of late more engaged the attention of anatomiſts than the ſyſtem of veſſels, generally known by the name of *valvular lymphatics*. Unfortunately, however, each of them has attached himſelf to a ſmall part of this wide extended field, and while ſome of its branches have been deſcribed, even delineated, with accuracy, no connected account of the whole has ever appeared. To ſupply theſe deficiencies is the intention of this eſſay, which we may reaſonably preſume will not be diſagreeable to the philoſophical inquirers into nature, and may be uſeful to the practitioners of the medical art.

After a ſhort hiſtory of the lymphatics, from the firſt ſteps made towards their diſcovery by Aſellius, to his own demonſtrations, which prove that they are generally diffuſed over the animal world, Mr Hewſon gives a ſlight view of the ſtructure of theſe veſſels, which he ſuſpects to poſſeſs a muſcular power; and then proceeds to a full detail of their origin and courſe in the human body, referring to a few elegant plates. To render this part of his work as complete as the ſubject would allow, he has added a ſuperficial deſcription of the lymphatics in birds and fiſhes, with an account of his method of rendering them more obvious to the ſenſes. As this part ſeems incapable of abridgement, we next follow the author to a few experiments on the lymph, both as contained in its proper veſſels, and exhaled into the different cavities of the body.

Fluids, in each of theſe ſtates, coagulated when expoſed to the air, and ſeemed more to reſemble the buffy coat of the blood than its watery parts, to which both had been compared by Authors. This coagulum, Mr Hewſon found to vary conſiderably in its degree of coheſion, being always firm in ſtrong animals, but in weak ones of a much looſer texture. And, in the courſe of his experiments, he obſerved, with pleaſure, that the fluid, collected from the different cavities of the body, uniformly agreed with that found in the lymphatic veſſels of the ſame animal, both in degree of tenacity, and time of coagulation. Thus far theſe fluids correſpond with the coagulable part of blood; but they differ from it in the time neceſſary to form the coagulum, the blood always jellying much ſooner than the lymph, and later in ſtrong than in weak animals; the very reverſe of what happens to that fluid.

From the following obſervations, Mr Hewſon is of opinion, that the veſſels exhaling fluids into the cavities of the body, whatever their ſtructure may be, have a power of changing the nature of their contents.

1. A coagulum is often found covering the internal ſurface of inflamed cavities, without the ſmalleſt eroſion. This can only be the natural exhalation, thrown out by inflamed veſſels, with a ſtrong diſpoſition to coagulate.

2. As the lymph is diſcharged, variouſly changed in tenacity, and other properties, by diſeaſe, and as pus is ſometimes found in the ſame manner in cavities, without any ulceration, the author thinks it at leaſt probable, that this purulent matter is only the lymph itſelf, ſtill more altered by flowing through veſſels in a higher or different degree of inflammation; and, in this notion, he is confirmed, by obſerving, with the microſcope, globules in pus like thoſe of the milk, a ſecreted liquor.

On a review of his experiments, he thinks they evidently point out the following general concluſions: That the lymph and exhalations are of a ſimilar nature, but differ widely from the watery part of the blood; that they coagulate on expoſure to air, and are probably a ſpecies of the lymph of the blood; that they differ in the time and firmneſs of coagulation, in various degrees, from the cahectic habit, where they ſcarcely jelly at all, to the inflammatory, where very ſhort time is requiſite to a ſtrong coheſion; and that, in ſome caſes, the inflamed veſſels can even convert the fluid paſſing through them into real purulent matter.

Having thus given a correct idea of the properties of the lymph, he goes on to trace it from the circulating maſs, and to inveſtigate the manner of its ſeparation; with regard to which, he obſerves, two different opinions have been entertained. The firſt and moſt general is, that the lymph is poured into cavities, either by exhalent arteries, or pores of an organized nature on the ſides of veſſels. The other has lately been ſtarted by Dr Hunter, who conſiders the lymph as merely a tranſudation of the thinner parts of the blood through interſtices, or inorganized pores in the veſſels circulating the red blood; which, though they retain the ſerum, allow the more fluid parts to paſs with eaſe. In ſupport of this new doctrine, Dr Hunter adduces the following facts.

1. Water injected into the blood-veſſels of a dead animal readily imitates this tranſudation.

2. Blood itſelf tranſudes after death, the lymph to which it owed its conſiſtence being coagulated.

3. Bile tranſudes through the gall-bladder; for, on opening an animal, all the adjacent parts are tinged.

With a view to diſprove this notion, Mr Hewſon maintains, that there is a tenſion in the veſſels of a living body, forſaking them with life; and that, did ſuch an exudation take place, it would defeat one great intention of veſſels, the conveyance of fluids, and involve us in a continual round of exhalation and abſorption, very contrary to the common ſimplicity of nature.

A ſecond objection of Mr Hewſon is, that, if liquors thus filtrate into cavities, not only muſt the veſſels, creeping on their ſides, but the membranes, lining theſe cavities, be porous. But, if theſe pores are admitted in every part, we cannot deny them to the whole extent of theſe membranes. And, were this the caſe, a partial dropſy could never occur; as a fluid would as eaſily eſcape, from within, outwards, as it formerly inſinuated itſelf from the veſſels into any cavity.

Another argument againſt the opinion of Dr Hunter, is drawn by Mr Hewſon from his former experiment, where he found the lymph, in different ſtates of the body, ſo various in degree of viſcidity. He is at a loſs to conceive, how pores of an inorganized nature ſhould pour out fluids ſo different in conſiſtence, much leſs filtrate pus from the blood, where it never exiſted.

The argument of Dr Hunter, founded on the tranſudation of blood, proceeds, he thinks, on an erroneous principle; for the blood of a living animal is actually thinned by the preſence of the coagulable lymph: And, if this tranſudation takes place in a dead, and not in a living animal, it ought rather to be attributed to a change in the veſſels, than their contents. And this is almoſt proven by the attentive examination of one of the ſtrongeſt of the doctor's own facts, viz. the bileous tinge on parts contiguous to the gall-bladder, which only takes place after an animal has been ſome time dead; but is never found in one recently killed.

From all theſe, the author concludes, that, as the lymph is very different from pure water, it cannot be filtrated by inorganical paſſages; and that the common opinion is founded on reaſon and experiment, the lymph being not only tranſmitted through exhalant veſſels, but by them changed in its properties, and adapted to the office of lubricating parts.

The manner in which the lymph is diſcharged into the cavities of the body being thus aſcertained with a great degree of probability, Mr Hewſon proceeds to examine how it is again abſorbed, whether by the common veins, or by the lymphatic ſyſtem. Beſides the authority of all the ancients, the advocates for the firſt opinion think they are poſſeſſed of ſeveral concluſive arguments in its favour.

They alledge, that, in dead bodies, injections eaſily flow from the veins into ſeveral cavities. This Mr Hewſon thinks, for many reaſons, to have little force. The veins are very delicate, and may be ruptured by a very ſmall diſtending power. And this ſeems in general to have been the caſe; for moſt of the injections uſed in theſe experiments were far too groſs to reach the extremities of the veins. And when thoſe of a more penetrating nature are employed, they imitate that tranſudation from vaſcular laxity, which takes place after death.

A ſecond argument adduced in favour of the old opinion is, that chyle has been ſeen in the meſenteric veins. But this is a very inconcluſive one, as the whole ſerum has been found of a white colour, and, in theſe veſſels, might eaſily be miſtaken for chyle. Another has been furniſhed by the ſtructure of the penis; but this analogy is now given up, it being generally allowed, that the blood is not abſorbed, but forced from its cells into the venous ſyſtem.

Ligatures and compreſſion on veins have afforded a fourth argument ; but two circumſtances unite to render this leſs ſatisfactory : 1*ſt*, The lymphatics, being contiguous to the veins, may be affected by the ſame cauſe. And, 2*d*, the compreſſion of a vein will throw a greater quantity of fluids on the exhalant arteries, by obſtructing their flow through the red ones.

It has been farther alledged, that there is no continuation of veſſels, nor any lymphatics in the placenta, though abſorption evidently takes place. To this Mr Hewſon replies, that there may be lymphatics, though not diſcovered, and continued veſſels from the mother to the foetus, though never injected.

The ſixth argument is ſupplied by an experiment of Kaau Boerhaave. He injected a fluid into the inteſtines, which ſoon appeared in the meſeraic veins. But Mr Hewſon is much inclined to believe that there was ſome deception in this experiment, as it has been often repeated, without ſimilar ſucceſs. Did the fact even happen, it could never be by abſorption, that ceaſing ſoon after death, while this happened at the end of ſeveral hours; and, as preſſure was applied to the ſtomach, the author thinks a venous rupture might give riſe to the appearances obſerved by Kaau Boerhaave.

The ſeventh and laſt argument in favour of abſorption by the the veins was, that many animals were deſtitute of any other veſſels capable of performing that office, as birds, fiſhes, and amphibia; but the diſcovery in lymphatics of every one of theſe, has totally overthrown this argument.

To all theſe, the ingenious Mr Meckel has, of late, added ſome others, derived from injections of mercury into the lymphatic glands, veſiculae ſeminales, bladder, and lacteal ducts of the breaſt, which he found to paſs readily, and without extravaſation, into the adjacent veins. But Mr Hewſon obſerves, that extravaſation is detected with difficulty; and as the lymphatic veſſels often lie contiguous to veins, it is not impoſſible that, in ſome caſes, the mercury might burſt from the one of them into the other, as often happened to Mr Hewſon in the meſentery of the turtle. From all theſe, the author conſiders the old opinion, as at leaſt open to many and weighty objections.

Unſatisfied, however, with this negative proof, he goes on to ſhow, that abſorption in reality is carried on by the lymphatic ſyſtem, from the analogy of all theſe veſſels with the lacteals, which form a part of that ſyſtem, and are without doubt abſorbents. Beſides this, the courſe by which poiſons reach the circulating fluids when externally applied, evidently points out that they enter the lymphatic veſſels alone, and are by them conveyed towards the heart. To theſe Mr Hewſon adds his obſervation, that the ſame fluid is always found in theſe veſſels, and the cavities whence they ariſe. Thus there will remain little doubt of the abſorbent power of lymphatics, a ſunction of ſuch importance in the oeconomy, that, for it alone, nature has provided a diſtinct ſet of veſſels: They had indeed, by ſome, been ſuſpected to be only reflected arterial branches; but this has been long confuted by the experiments of Dr Monro and Dr Hunter.

The indefatigable author next proceeds to give ſome conjectures with regard to the manner in which a fluid is taken up by the abſorbents, having firſt premiſed an account of the intimate ſtructure of the villous coat of the alimentary canal.

The villi, ſays Mr Hewſon, are folds of the internal coat, on each of which run an artery, and a vein, ſurrounding the open mouth of one or more lacteals. Theſe running backwards, through the coats of the inteſtines, for ſeveral reticular convolutions; which miſled Lieberkuhn into the notion of a ſmall bag, of which Mr Hewſon denies the exiſtence. And he takes this opportunity of ſhowing, that, in many glands of the body, ſimilar convolutions have made anatomiſts ſuſpect the preſence of follicles, where, in fact, they cannot be found.

As abſorption ceaſes with life, Mr Hewſon favours us with the following curious idea of the manner in which it goes on. We find, ſays he, that where nervous papillae are intended to poſſeſs an exquiſite degree of ſenſibility, they are incloſed in a plexus of blood-veſſels, by which they are erected, and adapted to receive ſlighter impreſſions; and as the lacteal orifices are provided with a ſimilar ſtructure, it is probable that they are alſo erected and diſtended by the turgeſcency of the blood-veſſels; and, in this ſituation, like capillary tubes, ſuck in whatever fluid is offered to their mouths. By this attraction, the fluid may reach the firſt pair of valves, and, acting as a ſtimulus, excite a muſcular contraction, puſhing on the lymph towards the heart; its tranſmiſſion will alſo be forwarded by the pulſation of arteries, which frequently croſs or accompany lymphatics.

All this part of Mr Hewſon's work ſeems as much calculated for the philoſopher as the phyſician; but he afterwards applies his obſervations to practice, and with ſeveral pathological remarks of importance concludes this eſſay.

From a compariſon of the natural exhalation with theſe accumulations, conſtituting dropſy, he finds them of different qualities; and thinks he has a right to conclude, that neither increaſed exhalation, diminiſhed abſorption, or a ruptured lymphatic, can, in common caſes, be reckoned the cauſe of that diſeaſe. He is of opinion, that theſe collections muſt proceed, either from a morbid ſtate of the veſſels, or too much water in the blood; and that abdominal obſtructions only give riſe to dropſy, from their effect in forming the chyle. Thus, if the liver be diſeaſed, little bile will be poured into the inteſtines, and the aliment of courſe will be leſs properly aſſimulated; which naturally may produce a vitiated ſtate of the blood. Mr Hewſon next obſerves, that various ſpecies of acrid and poiſonous matter, paſſing, as has been proved, through the lymphatic ſyſtem, give riſe to tumor of the glands, between the place of application and the heart; a fact well meriting the attention of ſurgeons, who might miſtake theſe for primary diſeaſes, and expect to cure them without attending to the real cauſe.

Another circumſtance of importance to a ſurgeon, is, that poiſons are often not abſorbed in an inſtant, and that extirpation of the part affords the moſt rational proſpect of a cure.

His laſt obſervation is with regard to the cure of oedema, which is often occaſioned by indurated lymphatic glands, or ſome other cauſe obſtructing the return of the lymph. The cure in theſe caſes can only be performed by a knowledge of the original cauſe and its final removal.

VI.

Obſervations on ſolar Spots. By Alexander Wilſon, M. D. *Profeſſor of Practical Aſtronomy in the Univerſity of Glaſgow, communicated to the Reverend* Nevile Maſkelyne, *Aſtronomer Royal. Vid. Philoſophical Tranſactions, Vol. LXIV. Part.* 1. 4to, London.

AFTER the invention of the teleſcope, an object ſo conſiderable as the ſun could not fail to claim attention. One of the moſt remarkable diſcoveries, made with regard to it, was that of ſpots appearing upon its ſurface, which were ſubjected to many remarkable variations. Theſe phaenomena, while they tended to overthrow opinions before entertained, excited great hopes, that, by due attention, ſomething curious and important, concerning the nature and conſtitution of the ſun itſelf, might be determined. It is, therefore, by no means ſurpriſing, that philoſophers of the firſt note ſhould have engaged in the proſecution of this inquiry.

The learned and ingenious author of the paper now before us, introduces his own obſervations on the ſubject of the ſolar ſpots, by ſome remarks on the conjectures which had been offered by others. The chief of theſe were Scheiner and Hevelius. The attention they beſtowed upon this ſubject deſerves applauſe. But, excepting a few concluſions concerning the rotation of the ſun round its axis, and the inclination of its axis to the plane of the ecliptic, our author is of opinion, that nothing of moment can be derived from their obſervations.

His own obſervations commenced in the month of November 1769, at which time a ſpot of an extraordinary ſize appeared upon the ſun. He had an opportunity of obſerving the changes which took place in it, at a time, when its nucleus and umbra were very clearly defined. The umbra, which at firſt was equally broad all round the nucleus, ſoon appeared much contracted on that part which lay towards the diſc of the ſun, while the other parts of it remained nearly of their former dimenſions. After this, the contracted ſide of the umbra entirely vaniſhed, and the nucleus changed its figure. From theſe circumſtances, Dr Wilſon began to ſuſpect, that the central part, or nucleus of this ſpot, was beneath the level of the ſun's ſpherical ſurface, and that the ſhady zone, or umbra, might be nothing elſe but the ſhelving ſides of the luminous matter of the ſun, reaching from this ſurface, in every direction, down to the nucleus. And he ſuppoſed this ſolar ſpot to be a vaſt excavation, the nucleus being its bottom, and the umbra its ſides.

Soon after he had formed this conjecture, the ſpot diſappeared, in conſequence of the revolution of the ſun round its axis. But, by obſervations made, upon its again returning after half a revolution, he was ſtill farther confirmed in his opinion. He next endeavoured to deviſe ſome means for aſcertaining the depth of this excavation. The breadth of the umbra on one ſide, he found, by obſervation, to be 14 minutes; but, for determining the point in queſtion, it was neceſſary to know its inclination to the ſun's ſpherical ſurface. As, upon the firſt appearance of the umbra,

bra, or upon its being juſt hid, a line joining the eye, and its uppermoſt limit, muſt coincide with the plane of its declivity, he concluded, that, by meaſuring the diſtance of the edge from the limb, when this change takes place, and by repreſenting it by a projection, the inclination may be aſcertained. Proceeding upon theſe principles, from the obſervations which he made, he was led to believe, that the bottom of this ſolar ſpot was not leſs than a ſemidiameter of the earth below the ſun's ſpherical ſurface.

After this examination of the large ſolar ſpot, he next proceeded to examine ſmaller ones, in order to diſcover whether they were of the ſame kind. From above forty obſervations, he found reaſon for concluding that every ſpot, conſiſting of a nucleus and ſurrounding umbra, is of the ſame kind with that deſcribed above.

During the courſe of theſe obſervations, he had an opportunity of remarking another extraordinary circumſtance reſpecting ſolar ſpots. On ſeveral occaſions, he obſerved one ſpot break out in the neighbourhood of another, by means of which changes were produced in the firſt. It may ſeem ſtrange that none of the former obſervers, who looked at the ſolar ſpots with ſo much attention, ſhould have diſcovered theſe phaenomena. This our author aſcribes to the idea they entertained of the nature of the ſun, to their ſuppoſing that ſolar ſpots could conſiſt of nothing elſe but ſmoke and groſſer exhalations, and to their chiefly obſerving theſe ſpots by the camera obſcura. He affirms, however, that, in this way, they can by no means be ſeen with the ſame diſtinctneſs as through a good teleſcope, armed with a glaſs properly ſmoaked.

From the peruſal of this paper, it will be evident to our readers, that Dr Wilſon has thrown new light upon a ſubject no leſs curious than it is grand. We mean not to detract from his merit, when we obſerve, in his own words, that a happy concurrence of circumſtances has often effected more than the moſt promiſing meaſures. In the preſent inſtance, both have been conjoined. It is probable, however, that much ſtill remains to be diſcovered. But it is to be hoped that the ſucceſs which has attended Dr Wilſon's inquiries will encourage both himſelf and others to proſecute this inveſtigation.

VII.

The Caſe of a Patient voiding Stones through a fiſtulous Sore in the Loins, without any concomitant Diſcharge of Urine by the ſame Paſſages. In a Letter to Dr Matty *from Mr* S. F. Simmons. *Vid. Philoſophical Tranſactions, Vol. LXIV. Part.* 1. 4to, London.

THE caſe with which we are here preſented is not of a nature ſo ſingular, that ſimilar inſtances may not be found on record; yet ſome intereſting circumſtances, with which it was attended, well deſerve notice. A woman, above fifty years of age, had, for about half that time, been affected with nephritic complaints. For the greateſt part of that period, ſhe had voided gravel with her urine, and had, on different occaſions, paſſed ſmall ſtones.

About ten years after the firſt attack, a ſwelling appeared on the left lumbar region, which, at length, ſuppurated. The wound did not heal, but conſtantly afforded an ichorous diſcharge. After five years continuance, this diſcharge began to abate, and the wound, from being perfectly eaſy, became painful and inflamed. The pain of her back, which had always affected the left ſide, became more intenſe than ever. But, during theſe ſymptoms, ſhe continued to paſs her urine in a healthy quantity, and without difficulty. The gravelly appearance in her urine now entirely diſappeared, nor were any calculi voided. After ſhe had continued in this ſituation for about eight days, a ſmooth calculus, weighing nearly twelve grains, was extracted, with ſome difficulty, from the wound in the back.

After recovering from this paroxyſm, ſhe was, at different times, affected with ſix others, all of which terminated in a ſimilar manner. During the intervals, ſhe enjoyed a ſtate of eaſe and health; the wound ſoon contracting to its uſual ſize, and admitting with difficulty a common probe.

From this hiſtory, Mr Simmons draws ſeveral concluſions. As the urine continued in the natural quantity, and without any morbid appearance, he imagines that the right kidney had never been affected. As, after the diſcharge of ſtones from the wound in the back, no gravel or ſand was diſcharged by the urine, he thinks it probable that the left ureter was cloſed. And as no urine ever paſſed by the back, he concludes that the ſecretion by the left kidney muſt have been deſtroyed.

VIII.

An Account of certain Receptacles of Air in Birds, which communicate with the Lungs, and are lodged both among the fleſhy Parts, and in the hollow Bones of thoſe Animals. By John Hunter, *F. R. S. Vid. Philoſophical Tranſactions, Vol. LXIV. Part.* 1. 4to, London.

THERE are unqueſtionably many particulars in the anatomy of animals, which are either unknown or too little attended to by natural hiſtorians. Among theſe, we may rank that ſingular circumſtance in the oeconomy of birds, which is the ſubject of the preſent diſſertation. This ſtructure, which, it is highly probable, is materially concerned in explaining many of their functions, does not ſeem to have been properly deſcribed by any anatomiſt before Mr Hunter.

And, from the promiſe with which he concludes this paper, we have reaſon to hope, that he will hereafter proſecute the ſame inquiry at greater length.

Mr Hunter introduces his ſubject, by giving an idea of the difference between the cells of birds deriving air from the lungs, and thoſe of the cellular membrane, which are common to all animals. The air-cells, which are found in ſoft parts, have no communication with the cellular membrane. Some of them communicate immediately with each other, all of them by the intervention of the lungs as a common centre. Some of them are placed in cavities, as the abdomen; others, in the interſtices of parts, as about the breaſt. They are of different ſizes, as beſt ſuits the circumſtances of theſe parts. The bones receiving air are of two kinds, ſome of them divided into innumerable cells, others hollowed out into one large canal. They may be diſtinguiſhed from bones not receiving air, by having leſs ſpecific gravity; by being leſs vaſcular; by containing little oil; by having no marrow nor blood in their cells; by having leſs hardneſs and firmneſs than others; and by the paſſage for the air being perceivable.

He next gives an idea of that mechaniſm of the lungs of birds, which renders them fit for communicating the air to the parts mentioned above. In birds, he obſerves, the lungs are attached to the diaphragm, and they are connected alſo to the ribs and ſides of the vertebrae. Theſe adheſions are rendered abſolutely neceſſary by the paſſage from the lungs into other cavities. Were it not for theſe, birds would be in the ſame ſituation with other animals, when their lungs are ſo much wounded as to allow free paſſage of air into the cavity of the thorax. In either caſe, the lungs could not be expanded, and reſpiration would be totally prevented.

After this, Mr Hunter deſcribes the internal openings into the lungs, by which they communicate air to the other parts. The diaphragm is perforated in ſeveral places by pretty large holes, allowing a free paſſage of air into the abdomen. To each of theſe holes is attached a diſtinct membranous bag, thin and tranſparent. The lungs open at their anterior part into membranous cells, which lie upon the ſides of the pericardium, and communicate with the cells of the ſternum. The ſuperior parts of the lungs open into cells of a looſe net-work, through which the trachea and oeſophagus paſs. When theſe cells are diſtended-ed with air, it indicates paſſion, as in the caſe of the Turkey-cock, pouting-pidgeon, &c. Theſe cells communicate with others in the axilla, and under the large pectoral muſcle; and thoſe with the cavity of the os humeri, by means of ſmall openings in the hollow ſurface near the head of that bone. Laſtly, the poſterior edges of the lungs have openings into the cells of the vertebrae, ribs, os ſacrum, and other bones of the pelvis, from which the air finds a paſſage to the cavity of the thigh bone.

The account here given holds in moſt caſes, yet in ſome inſtances there are more, in others fewer communications. And, in ſome inſtances, the air is not derived from the lungs, as in the cells in the ſcull of the owl, to which it is furniſhed by the Euſtachian tube.

After mentioning theſe facts, the ingenious author next relates ſome experiments which he made to prove the free communication between the lungs and the cavities now mentioned. From theſe experiments, it appears, that, after the trachea was tied, a cock breathed through a canúla introduced into his belly; another through the os humeri, when cut acroſs; and a hawk through the os femoris. In all theſe caſes, the animals ſoon died. In the firſt, Mr Hunter aſcribes the death to an inflammation induced upon the bowels. In the two laſt, he allows that it proceeded from difficult reſpiration. What took place, however, was ſufficient to ſhew that the animals did breathe through the cut bone.

This paper is concluded by ſome reflections concerning the final cauſe of theſe ſingular communications. It at firſt occurred to Mr Hunter, that it might be intended for flying, as ſerving to increaſe the volume and ſtrength with the ſame quantity of matter. And in this opinion he was farther confirmed, by obſerving that the feathers of birds contain a conſiderable quantity of air. But, to this ſuppoſition, ſeveral objections preſented themſelves, particularly the plentiful exiſtence of theſe cells in the oſtrich, which does not fly; and their total abſence in the batt, which does fly.

His next conjecture was, that theſe parts were to be conſidered as an appendage to the lungs, and, like the bags continued through the bellies of amphibious animals, that they ſerved as reſervoirs for air. Amphibious animals, by means of theſe bags, have occaſion to breathe leſs frequently than others, and thus can live under water. A ſimilar contrivance may be neceſſary in birds, as the motion of flying may eaſily be imagined to render frequency of reſpiration difficult. He farther inſinuates, that this conſtruction of the reſpiratory organs may aſſiſt birds in ſinging; which, he thinks, may be inferred from the long continuance of ſong between the breathings of a canary-bird.

IX.

Obſervation ſur une Pierre de la Matrice, par M. Bouvet, *cadet, Maitre en Chirurgie à Sirod en Franche Comté. Vid. Journal de Medecine, par* M. A. Roux, *Docteur-regent de la Faculté de Medecine de Paris.* Tom. XLI. 12mo, Paris.

THE ſingularity of the caſe now before us, if the author has not been deceived with regard to the ſeat of the affection, well deſerves notice. A woman, about fifty years of age, of a ſanguine habit, and remarkably healthful, ſuddenly began to complain of a pain in the vagina, attended with difficulty in making water, affections of the kidneys, and general tenſion of the hypogaſtric region. Theſe complaints were ſoon followed by irregular ſhiverings, feveriſh heat, obſtinate coſtiveneſs, violent headach, averſion to food, bad taſte in the mouth, and frequent inclination to vomit.

Mr Bouvet, finding the woman in this ſituation, endeavoured, by the uſual means, to mitigate the pain and fever. In this attempt, however, he could by no means ſucceed. On the contrary, the ſtrangury became more and more intolerable, and the patient was now conſtantly affected with a ſenſe of weight in the lower belly. In this ſituation, it was thought neceſſary to draw off the urine, by introducing a catheter into the bladder. But, upon trial, it was found that this was not in the ſmalleſt degree ſerviceable.

From the account which this patient now gave of the efforts ſhe was obliged to make in paſſing her water, and of the feeling ſhe had of a heavy body, moving from the abdomen towards the labia pudendi, and returning back when theſe efforts ceaſed, Mr Bouvet could no longer doubt of the preſence of ſome extraneous body, either in the uterus or bladder of urine. One of his friends, whom he called to viſit this caſe, agreeing with him in the ſame opinion, and both of them ſuppoſing it to be a polypus of the uterus, they determined to attempt extirpating it by a ligature. With this view, Mr Bouvet's aſſociate introduced his hand into the vagina, and graſping the body forcibly, between his fingers, it came away, and was found to be a ſtone, weighing three drams and twelve grains. This ſtone, he tells us, appeared to have been contained in a cyſt, attached by a long pedicle to ſome place about the os uteri. From the moment the ſtone was extracted, the patient was relieved, and, without any ſuppuration of the lacerated membranes, got well in a few days.

X.

Diſſertation ſur l' Operation de la Fiſtule à l'Anus, pratiquée avec le fil de plomb ; par M. Majault, *Docteur, Profeſſeur en Medecine et Chirurgien-major de l'Hoſpital Militaire de Douay. Vid. Journal de Medecine, tome* XLI. 12mo. Paris.

THE ſurgery of the moderns, our author obſerves, is in general much leſs painful in its operations than that of the antients: But the operation for the fiſtula in ano furniſhes an exception to this general obſervation. The antient method of operating by ligature being, in his opinion, much more ſimple, eaſy, and expeditious, than that now practiſed. Mr Foubert was the firſt whom the advantages of the antient method induced to recommend its being renewed, with this ſole difference, that he employed a metallic in place of a ſilken ligature. Mr Majault here preſents us with an account of this method, ſuggeſting, at the ſame time, a few improvements of his own, and confirming the whole by the hiſtory of fourteen caſes ſucceſsfully treated in this way.

The manner of operating which he propoſes, is ſhortly this. By a pliable ſilver needle, about four inches in length, a bit of leaden wire, of a line and a half in circumference, is introduced from the external opening through the internal one, in a compleat fiſtula, and withdrawn by the finger down the rectum, ſo as to comprehend every thing lying between the two openings. The ligature being diſengaged from the inſtrument, is twiſted in ſuch a manner as to give a ſlight degree of pain to the patient; and it is prevented, by proper compreſſes, from injuring the neighbouring parts. In this ſituation, it is left in the fiſtula, and twiſted from time to time, till it cut its way out; the wound being, at the ſame time, frequently waſhed with a little warm wine. Mr Foubert had obſerved, that in ſome caſes treated in this manner, a ſmall internal ulcer remained after the external opening was compleatly cicatrized. This inconvenience, Mr Majault aſſures us, may be infallibly avoided, by preſſing the inſtrument through the inteſtine above the internal opening. He likewiſe diſſuades from the injections employed by Mr Foubert, in order to diſcover the internal opening, not only as unneceſſary, but as being productive of the worſt conſequences, in deſtroying the cellular membrane, laying bare the inteſtine, and even occaſioning fiſtulous openings, which did not before exiſt.

XI.

Tentamen phyſiologicum, de Secretione glandulari; auctore Jacobo Hendy. 8vo. Edinburgi.

DR HENDY begins this diſſertation, by defining glands to be appendages of the ſanguiferous and lymphatic ſyſtems, which have the power of changing fluids brought to them, or of ſeparating certain parts from the general maſs of the fluids. He then divides his ſubject into three ſections. In the firſt, he treats of the general ſtructure of glands, and of the propriety of his definition, adding a ſhort table, containing his diviſion of them: Then he conſiders thoſe glands more particularly, which are appendages of the ſanguiferous ſyſtem, and afterwards thoſe which belong to the lymphatic ſyſtem. In the ſecond ſection, the author relates the moſt common opinions concerning the manner in which they change the general maſs of the fluids, or ſeparate any thing from it. In the third, he delivers what he thinks the moſt probable account of the manner in which ſecretion is performed, with the arguments which ſerve to confirm it. In treating of *the ſtructure of glands*, our author rejects the opinion of Malpighi, who conſiders them as veſicles; and thinks it proved, by the injections of Ruyſch, that they conſiſt merely of a convolution of veſſels. He does not deny, that the follicles mentioned by Malpighi are ſometimes found; but he maintains, that this is only a morbid appearance, and that they are frequently met with in places where glands are never ſeen, as in the cellular texture of different parts of the body. Even when they are found in glands, he aſſerts, that they are never increaſed by an accumulation of the fluid ſecreted in the glands, and refers, as a proof of this argument, to the hydatides of the liver.

In his definition, our author affirms, that glands are to be conſidered as appendages of the ſanguiferous and lymphatic ſyſtem. In the next place, therefore, we have a table referring them to theſe different heads. Thoſe of the ſanguiferous ſyſtem are conſidered as belonging either to the arteries or the veins. To the firſt, are referred all thoſe mucous glands, which moiſten or lubricate cavities, the ſalivary glands, the pancreas, the kidneys, womens breaſts, the teſticles, and perhaps the thyroid gland, with every other gland not reduced under ſome particular head. As an appendage of the venous ſyſtem, our author conſiders the liver. The appendages of the lymphatic ſyſtem are, the lymphatic glands, the thymus, and the ſpleen. Dr Hendy then favours us with a conjecture, that the brain, the pineal, and pituitary glands, the ganglia of the nerves, and the capſula renalis, are to be conſidered as glandular appendages to the nervous ſyſtem. The pineal and pituitary glands, and the ganglia of the nerves, are included under this head from their ſituation, and more their immediate connection with the nervous ſyſtem; and the renal capſule is alſo mentioned here, becauſe, in thoſe monſters, who have been born with a ſmall brain, or without it altogether, it has been found in a ſimilar and an exactly proportioned ſituation.

The glandular appendages of the ſanguiferous ſyſtem are, according to our author, either ſimple, or more complex. As an inſtance of the former, he mentions the organs deſtined for the ſecretion of that fluid which is found in the different interſtices of the body. Concerning their ſtructure, he mentions the three following opinions, viz. That they are either inorganic pores, organic pores, or exhalant arteries. The firſt, which owes its origin to Dr Hunter, is, in our author's opinion, ſo fully confuted by the late Mr Hewſon, in his experimental inquiry, that he thinks it needleſs to conſider it in this place. He, in the next place, ſays, that theſe organs are not organic pores, becauſe ſuch a ſtructure is not capable of producing a fluid ſo different from any of the contents of the blood, as is the interſtitial fluid. And therefore he concludes, that they are exhalant arteries; and endeavours to ſupport this concluſion from ſome morbid appearances, and particularly from the formation of pus.

The more complex glands, he alſo conſiders as entirely vaſcular; but, with this difference, that the veſſels are exceedingly convoluted: In confirmation of which opinion, he refers to the injections of Ruyſch; but more particularly to thoſe of Mr Hewſon. Of this ſort, he mentions the liver, kidneys, and teſticles; and he thinks that the receptacles, with which theſe glands are attended, do by no means conduce to ſecretion, but are only repoſitories for the ſecreted fluids, in which they are preſerved for the uſe of the oeconomy; and undergo no other change than the loſs of their more fluid parts, by means of abſorption.

The glandular appendages of the lymphatic ſyſtem may, according to Dr Hendy, be truly conſidered as diſtinct from thoſe of the ſanguiferous ſyſtem; becauſe the lymphatic veſſels proceed from various cavities, and are by no means continuations of the arteries. He obſerves, however, that the red particles of the blood are ſometimes found in this ſyſtem of veſſels; and he aſſerts, that the orifices of theſe veſſels will not admit of their taking them up by abſorption; and that even, if this was poſſible, they are never found in the fluids deſtined for abſorption. He concludes, therefore, that the red particles of the blood are formed in the lymphatic glands, thymus, and ſpleen. Concerning the ſtructure of the lymphatic glands, our author obſerves, that, when the arteries and veins are filled with coloured liquors, or mercury, the glands ſeem to be entirely compoſed of theſe veſſels; and that the lymphatic veſſels which enter the glands, are often divided, and again united in them; but in ſome caſes are only convoluted.

The Thymus reſembles the lymphatic glands in ſtructure, except only that the lymphatic veſſels do not enter and paſs through it, but ariſe out of it. The ſpleen has a remarkable number of blood-veſſels; very many lymphatics ariſe from it; and it is of a cellular nature. Our author ſuppoſes, that the red particles of the blood conſiſt of a depreſſed central globule, ſurrounded by a veſicle, and that this veſicle is formed in the ſpleen; becauſe the lymphatic veſſels coming out of the ſpleen, have been found almoſt full of theſe particles. But, for a more full account of this doctrine, he refers his readers to a paper, in the philoſophical tranſactions, by Mr Hewſon, and to the lectures of that ſame gentleman, to whom he attributes his ſentiments on this ſubject.

In the next place, our author proceeds, in the ſecond ſection, to treat of the manner in which the glands act. Here he examines the opinion of Des Cartes, who ſuppoſed, that the glands perform their offices, like ſieves of different ſizes, admitting only particular particles of our fluids; and alſo the ſuppoſition, that the glands were furniſhed with their peculiar fluids at their firſt formation, and continue to act by attracting ſimilar fluids from the general maſs. But he objects to both of theſe hypotheſes, for ſeveral reaſons, and particularly, becauſe the blood does not formally contain the different fluids ſecreted. The laſt theory of ſecretion conſidered by our author is, that which attributes it to fermentation; but this too he rejects, as there are no proofs of fermentation in the general maſs of our fluids. As a proof, that ſecretions do not proceed from any fermentative proceſs, our author ſubjoins ſome experiments on pus, which he conſiders as a ſecreted fluid. From the two firſt, it appears, that pus is of a much leſs putrid nature than ſerum, and that the putrefaction of both of theſe fluids may be accelerated by the addition of ſome of the red particles of the blood. In the third experiment, we ſee that a thin piece of lamb's fleſh, applied to an ulcer diſcharging laudable pus, and covered over by ſome thin lead, did by no means aſſume the appearance of pus, but became foetid, and was much leſſened. In order to try, whether effuſed fluids can be converted into pus by fermentation, our author made ſeveral other experiments, in which he applied ſerum in its inflammatory and ordinary ſtate, and alſo coagulable lymph, in different ſtates, to the ſame ulcer, which ſtill diſcharged good pus ; but none of theſe fluids were converted into pus ; and, on the contrary, they became very putrid.

From theſe experiments, therefore, Dr Hendy concludes, that pus does not riſe from a fermentative proceſs. And, in the next place, he inquires, whether any aſſiſtance in the ſolution of this queſtion can be derived from Mr John Hunter's opinion, that the blood poſſeſſes a living power. But, after a full examination of thoſe arguments in favour of this opinion, which have been mentioned in a former number of our Medical Commentaries, he rejects the ſuppoſition, and aſſerts, that the blood has no appearance of that organical ſtructure which he reckons neceſſary to the performance of the active functions of life.

In the laſt ſection of this diſſertation, our author gives his own ſentiments on the nature of ſecretion ; and attributes it intirely to the action of the blood-veſſels ſupplying the different glands. This action he ultimately refers to the ſtate of motion in the nervous power, ſince ſecretion is always affected by the paſſions of the mind, and other ſtimulants and ſedatives, in the ſame manner as other functions which are without heſitation attributed to the nerves. The variety of the ſecretions is thought to proceed from the various denſities of the arteries, and their various diviſions, which are exceedingly great. Our author conſiders the generation of pus as a ſecretion, from its being affected by the ſame circumſtances which act upon the more obvious ſecretions; and he affirms, with Mr Hewſon, that it is ſometimes ſecreted from exhalant arteries, without any ulceration.

But, in order to confirm this opinion, he endeavours to ſhow, that the concluſions which Mr Gaber drew from his experiments are not juſt, and that pus is never formed from putrid ſerum. To this purpoſe he aſſerts, that the ſediment from putrid ſerum is very different from pus, as a long time is neceſſary to the precipitation of the former, whereas the latter is perfectly formed in a few hours; and that the foetor of putrid ſerum is very great, but that of pus inconſiderable, and ſcarcely ſenſible. He further adds, that pus is much leſs putreſcent than ſerum; and that, when it becomes very putrid in a ſhort time, the putrefaction has been haſtened by the mixture of ſome of the red particles of the blood with the purulent matter.

SECT. II.

Medical Obſervations.

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I.

Obſervations on the Medical Virtues of Lead, by, *Mr* William White, *F. A. S. Surgeon in York.*

CELSUS, and Dioſcorides of Anazarba, the celebrated botaniſt, who flouriſhed under the reign of Veſpaſian, are, I think, the firſt who make mention of the various preparations of lead, as minium, ceruſſa, &c. and, as phyſicians, greatly extol their virtues; but they uſed them only externally.

Lead hath been accuſed, and with great reaſon, of being the cauſe of the colica pictonum, when given internally. Its external uſe has been alſo much ſuſpected; but I think upon too ſlight grounds. I have ſeen it uſed ſo freely as a topic,

pic, in ulcers, burns, excoriations, &c. that I can never ſuſpect a ſmall plate of lead put over an iſſue, or ſitting in a new painted room, can ever bring on ſymptoms of the colic of Poictu in even the moſt irritable habits. However, it is now come into univerſal uſe, and claims the moſt diſtinguiſhed place among the topical remedies. Indeed its effect in abating inflammation is wonderful; and, with Meſſrs White, Aikin, &c. I cannot but join in eſteeming it equally innocent as efficacious.

A brewer to a gentleman near this city, ſlipt with his arm up to the ſhoulder into a vat of boiling wort, and was ſo miſerably ſcalded, that the cuticula came entirely off, from the axilla down to his finger-ends. The pain and inflammation was very violent, ſo that, after a few hours, I was ſent for. Cloths, wet in Goulard's aqua ſaturnina, were directed to be wrapped about the whole arm, and, as they grew dry, moiſtened afreſh, for the ſpace of an hour, night and morning; the arm was then covered with a ſaturnine cerat, ſpread upon linen, till the time of bathing again. The relief was wonderful; the poor man really believed it was done by witchcraft; ſo ſudden and effectual was the ſedative effect of the lead experienced.

This man never found any bad effects from the application, though uſed in large quantities, and applied to ſuch a large denudated ſpace, where the abſorption muſt too have been very conſiderable.

A ſtout young man came to our hoſpital, a few weeks ago, with a gutta ſerena. He got his living by working in the lead mines, his buſineſs being to detach the ore, having no concern in the cleanſing or melting it. He went to his bed with his ſight entire, but next morning awoke perfectly blind, about twenty weeks ago. He never had any colicky ſymptoms, or any paralytic affection. Whether this ſtate of the paralyſis of the optic nerves might have been cauſed by lead, I ſhall leave to others to determine; but I never before ſaw the retina in ſuch an abſolute ſtate of inſenſibility.

May not the effects of lead be underſtood from the following conſiderations?

The living ſolids of an animal fibre are endowed with a power of action, which is increaſed by any irritating cauſe. This aptitude of the animal fibres to be acted upon by a ſtimulus, is termed ed their *irritability*. In proportion to the weakneſs of this power, will the effect of any ſtimulus to the part be leſs apparent and the conſequent contractions more weak and languid.

Inflammation ſeems to be only a morbid increaſe of this power of action, the effect of an irritation more or leſs permanent and violent. Lead, eſpecially when combined with an acid, hath a ſingular effect in diminiſhing the irritability. It exerts this ſedative power upon every living part to which it is applied, both in its healthful and diſeaſed ſtate. Saturnine preparations are of a very aſtringent quality; hence I cannot ſuſpect them capable of being abſorbed into the ſyſtem. Would they not rather effectually conſtringe the orifices of the abſorbent veſſels? We know that chalybeates are not capable of being thus conveyed into the body. It appears to me that they cannot exert their effects upon any part of the body, but in conſequence of an immediate application.

Lead is ſaid to have a peculiar effect of exerting its noxious qualities upon the primae viae; but let us conſider, that, when taken into the body, it is always applied in contact with thoſe parts. May not the obſtinate colics, conſtipations, and palſies, ſo often the conſequences of its internal uſe, be the effects of its extreme ſedative power, rendering the inteſtines incapable of irritation from their contents, the conſequence of which will be the loſs of their periſtaltic motion, which will be followed by every ſymptom of the colic of Poictu?

I am of opinion, that the preparations of lead can never be given internally with propriety. The numerous and well authenticated inſtances of miſchief, reſulting from ſuch practice, demands our particular attention to guard againſt every means, by which that metal may be brought into immediate contact with the bowels. It is a pity that we are thus prevented from exhibiting a medicine ſo powerfully ſedative, and capable of allaying the inordinate actions of the living fibres in general. Perhaps by ſome now unthought of combination, its topical action upon the bowels may be obviated or prevented. Such a mixture, I ſhould imagine, might be found to anſwer ſome important medical indications.

Fuller much recommends a gargle with ſugar of lead; and has, if I remember right, been blamed for it. It muſt be acknowledged, that ſome caution is neceſſary to be obſerved in uſing it.

But I have frequently uſed a ſaturnine gargle in an eryſipelatous inflammation of the fauces, with or without aphthae, and with the greateſt ſucceſs. We are, however, confined in its uſe, from many people, children univerſally, being incapable of uſing either by means of a ſyringe, or otherwiſe, without ſuffering part of it to get down into the ſtomach, which might be followed by ſome diſagreeble conſequences.

I have always been fearful of giving lead internally, and never have yet adviſed it; but certain it is, that ſome conſtitutions are much leſs liable to ſuffer from it than others, proceeding from ſome peculiarity of habit, general or topical. By the latter, I mean ſome peculiar ſtate of the nerves of the bowels, by which they are leſs apt to be diſturbed or affected by ſuch medicines.

I have known repeated inſtances of a continued uſe of the tinct. ſaturnina, and in conſiderable doſes, in caſes of a phthiſis pulmonalis, without being followed by any ſymptoms of colic: On the contrary, it ſeemed to act as a general ſedative, conſtantly abating the hectic heat and ſweats. In one caſe, to which I attended particularly, it evidently diminiſhed the irritability of the heart and arterial ſyſtem, ſeldom failing to render the pulſe ſlower, by ten ſtrokes in a minute.

On the contrary, I have known pain, flatulent diſtenſions of the bowels, and obſtinate conſtipations, brought on by a ſingle doſe of that tincture, and believe that a repetition would have been followed by the colic of Poictu.

Saturnine topics have been much blamed, as cauſing many bad ſymptoms; but probably, in many caſes, ſuch diſagreeable effects have been rather the conſequences of a retropulſion of ſome irritating acrimony into the ſyſtem, being generally obſerved in children, and very irritable habits.

Many inſtances are related in authors, of the ſpaſmodic colic being brought on by ſuch external applications, and I doubt not but with ſufficient reaſon. Dr Baker has given ſeveral caſes of pains in the bowels coming on, ſubſequent to their uſe; but it is probable, that colica pictonum has, at times, been confounded with ſome of the other ſpecies of colica.

It is now a very favourable time for obſerving, whether the colic of Poictu, or many of the other bad effects of an internal uſe of lead, can be ever produced by it, when uſed externally, as its preparations are come into univerſal uſe.

I have uſed ſome gallons of the aqua ſaturnina of Goulard ; and many other practitioners, with whom I have converſed upon the ſubject, all agree with me in not knowing a ſingle inſtance of bad conſequences induced from ſuch applications. Dr Haygarth, in his letter to Dr Percival, from a very plentiful uſe of them in the patients who ſuffered by the accident at Cheſter, never obſerved the ſlighteſt ſymptom of colic or palſy, tho' he was particularly attentive to that very ſubject.

Being upon the ſubject of ſedatives, among which the action of cold holds a diſtinguiſhed rank, an experiment juſt occurs to my mind, which I performed after Dr Franklin. I wet the bulb of Fahrenheit's thermometer with aether, and quickened the evaporation, by blowing upon it with a pair of bellows (done by an aſſiſtant ;) and this being continued alternately, for a quarter of an hour, the mercury fell from 54 to 28 degrees ; or 4 degrees below the freezing point, my finger being at laſt quite benumbed with the cold.

Might not this be a commodious way of applying cold topically in ſome diſorders, as in ſuperficial inflammations from an external cauſe, the occaſional cauſe being previouſly removed; or in ſome kinds of headach? &c.

The experiment requires a very pure aether. I tried it in vain with ſome that was reckoned very good; but I imagine it had been adulterated with ſome kind of eſſential oil, which hindered the evaporation, and rendered the experiment fruitleſs. By continuing the proceſs, a much greater degree of cold may be generated.

II.

A remarkable Caſe of Deafneſs cured by Salivation. By Mr Robert Gordon, *Surgeon to the 54th Regiment.*

JOHN BLUET, a ſoldier of the 54th regiment, a ſtrong healthy young man, bathing in the ſea at Galway, 7th September 1771, upon plunging over head, inſtantly became perfectly deaf. He was brought immediately to the regimental hoſpital; complained of a violent pain in his head, of a hiſſing noiſe in his ears, and looked frightened. Nothing could be learned from inſpecting his ears. However, all the uſual remedies in deafneſs were adminiſtred, but without effect. He continued in this ſituation about three months, when the commanding officer talked of diſcharging him, as I had no hopes of his recovering his hearing. It occurred to me then, to try what mercury would do, although I had little or no hopes of ſucceſs. Accordingly, upon the 10th of December, he was put upon a mercurial courſe. Upon the 16th, being the day ſucceeding the 6th inunction, he told me, with joy painted on his countenance, that he had heard the drums at troop beating that morning, which he had not been able to do before, ſince the day he went into the water. Upon ſpeaking to him very loud, he underſtood me for the firſt time, ſince his admiſſion into the hoſpital; previous to this, being always obliged to write down any queſtions I had occaſion to aſk him. It is remarkable that this morning his mouth was firſt affected with the mercury. The mercurial courſe, therefore, was continued ſome time longer. A gentle ſalivation ſuperveening, his hearing was gradually reſtored; and upon the 4th of February 1772, he returned to his duty, perfectly cured.

This man had been affected with a gonorrhoea about a twelve-month before this accident, was cured by the uſe of mercurial medicines, and he continued free from complaints of every kind, from that time, till his bathing on the 7th September, as mentioned above; and was, at the time of going into the water, in the higheſt health. He never had any deafneſs before; nor was it the firſt time he had bathed that ſeaſon.

III.

The Hiſtory of a Caſe, in which ſome of the Vertebrae were found diſſolved. By Mr Benjamin Bell, *Surgeon in Edinburgh.*

ON the 10th of July 1772, I was deſired to viſit a man, aged 40. He then complained of a violently acute pain in the ſmall of his back, ſhooting down towards the upper part of both thighs, though more ſeverely towards the right ſide. He could not raiſe his body into an erect poſture, but with great pain; and, when it was ſo, he was obliged to bend forward again, before he could walk; as it was only in that poſition that he could make uſe of his right leg.

Upon examining the parts affected, they did not appear either ſwelled or diſcoloured; nor did he complain of any additional pain on preſſure. He complained alſo of wandering pains in different parts of his body, particularly in the joints of his ſhoulders, wriſts, and knees. The above ſymptoms firſt began about three months before, and had been turning daily worſe ever ſince. A cart had been driven over his body about four years ago, to which he imputed his complaints; tho' none of the ſymptoms, but in a trifling degree, appeared till within three months of the above date. Before I ſaw him, he had uſed many medicines and applications, but with no advantage.

I ordered a variety of medicines, both internally and externally; but with no other effect than in relieving the flying pains in his joints, of which he complained. As he was of a plethoric habit, blood-letting was preſcribed; and, in a few days after, a bliſter was applied to the part affected, about the ſmall of the back, which was kept open for a fortnight, but with no great relief. The parts were frequently rubbed with linimentum volatile; cupping, with ſcarifying, were at different times made uſe of, and, for a day or two, they generally gave ſome relief; but the pain always recurred, and in as violent a degree as ever.

The pain in his loins, notwithſtanding the uſe of theſe, and a variety of other medicines, both internally and externally, continued to increaſe, till within a fortnight of his death; when he was ſeized with a pain in his breaſt, difficulty of breathing, heat, thirſt, and other ſymptoms of fever, which, though blood-letting, and other remedies were preſcribed, ſtill grew more violent; and he died on the 26th November 1773.

Upon opening his body, after death, the lungs were found much inflamed, and hard tubercles in different parts of them. On both ſides, they adhered to the pleura; and, in the left cavity of the breaſt, upwards of three pounds of fluid matter were found extravaſated. Firm polypous concretions were likewiſe found in the large veſſels about the heart. All the abdominal viſcera appeared ſound; but, upon turning them out, a large ſwelling was obſerved, extending from the loweſt vertebra of the back, downwards along the courſe of the pſoas and iliacus internus muſcles of the right ſide, with its under extremity pointing at that opening below Paupert's ligament, through which the large veſſels of the thigh paſs. Upon being laid open, it was found to conſiſt of a very tough membranous bag, containing upwards of two pounds of a thick foetid yellow matter, with a great many pieces of carious bones interſperſed in it, which, upon farther examination, were found to have come from the undermoſt vertebra of the back, and uppermoſt of the loins; both of which were almoſt entirely conſumed, and what did remain of them was quite ſoft and rotten. The matter, when contained in the cyſt, had ſurrounded the ſpinal marrow at this vacancy between the bones. It was obſerved to be of a much leſs firm texture than natural.

It may be remarked, that this patient had not at any time, during the whole courſe of the diſeaſe, any paralytic ſymptom whatever.

V.

A peculiar Caſe of a Species of Maggots being diſcharged from the Uterus during Menſtruation. By Mr Thomas Cockſon, *Surgeon at* Campden.

A Farmer's wife, about 27 years of age, always very healthy, applied to me about the month of June 1773, for a complaint in the uterus, with which ſhe had been troubled for the ſpace of three months before ſhe aſked my advice. About the time of menſtruation, for three or four days previous to the appearance of blood, ſhe had the uſual pain in her loins, but ſeverer than common, attended with an uterine diſcharge, of a greeniſh hue, and ſo exceedingly offenſive to the ſmell, that ſhe could ſcarce bear herſelf. This diſcharge continued till the menſes appeared. Now, from the firſt appearance of this diſcharge, until the ceſſation of the menſes, great numbers of maggots were brought away. They were all diſcharged alive. They were very ſmall, and of an odd conformation. They had a large head, with a ſmall tail in compariſon; and in figure much reſembled tadpoles. When preſſed between the thumb and finger, the ſame diſagreeable ſtench was emitted as from the uterine diſcharge.

From theſe vermine, ſhe was entirely freed, by injections, of a decoction of chamomile flowers, and wormwood, and of olive oil, which were thrown up twice a-day. In this courſe ſhe perſiſted for about three weeks; and has never ſince had any return of her complaints.

V.

A Letter from the late Mr William Hewſon, *F. R. S. and Teacher of Anatomy in London, to Dr* John Haygarth *Phyſician in* Cheſter.

My dear SIR,

I Have now a little leiſure, and ſhall endeavour to fulfill my promiſe, by ſending you a ſketch of my obſervations.

The red particles of the blood, improperly called globules, are flat in all animals, and of very different ſizes in different animals. In man, they are ſmall, as flat as a ſhilling, and appear to have a dark ſpot in the middle. In order to ſee them diſtinctly, I dilute the human blood with freſh ſerum. My predeceſſors, not having thought of this, could not ſee them diſtinctly. And Leuwenhoeck in particular, imagining a round figure fitteſt for motion, concluded they muſt be round in the human body; though he and others allowed, that, in frogs, &c. where they viewed them diſtinctly, from the blood being thinner, they were flat. Now, I prove that they are flat in all animals. In the human blood, where theſe particles are ſmall, it is difficult to determine what that black ſpot is, which appears in the centre of each. Some have concluded that it was a perforation: But, in a frog, where it is ſix times as large as in a man, it is eaſy to ſhew, that it is not a perforation, but, on the contrary, is a little ſolid, which is contained in the middle of a flat veſicle. Inſtead, therefore, of calling this part of the blood red globules, I ſhould call it red veſicles; for each particle is a flat veſicle, with a little ſolid ſphere in its centre.

I find that the blood of all animals contains veſicles of this ſort. In human blood, there are millions of them; and they give it the red colour.

But, in inſects, they are white, and leſs numerous in proportion than in man and quadrupeds. As they are flat in all animals, I ſuſpect that ſhape is a circumſtance of importance; but it can be altered by mixture with different fluids. And I find, that it is by a determinate quantity of neutral ſalt contained in the ſerum, that this fluid is adapted to preſerving theſe veſicles in their flat ſhape: For, if they be mixed with water, they become round, and diſſolve perfectly; but add a little of any neutral ſalt to the water, and they remain in it, without any alteration of their ſhape, and without diſſolving.

Now, when it is conſidered, that the blood of all animals is filled with theſe particles, we muſt believe that they ſerve ſome very important purpoſe in the animal oeconomy; and ſince they are ſo complicated in their ſtructure, it is improbable they ſhould be made by mechanical agitation in the lungs, or blood-veſſels, as has been ſuſpected, but probably have ſome organs ſet a part for their formation. This I ſhall endeavour to prove, when I have explained their ſtructure a little more particularly, and mentioned the manner in which I exhibit it. I take the blood of a toad, or frog, in which they are very large; I mix it with the ſerum of human blood, to dilute it; I find them appear all flat; ſo they do in the blood-veſſels of this animal; as I have diſtinctly ſeen in the webb between its toes, whilſt the animal was alive, and fixed in the microſcope. Their appearance in theſe animals is not unlike ſlices of cucumber. I next mix a little of the blood with water, which immediately makes them all round, and then begins to diſſolve them whilſt they are round. I incline the ſtage of the microſcope, ſo as to make them roll down it; and then I can diſtinctly ſee the ſolid in the middle fall from ſide to ſide, like a pea in a bladder. A neutral ſalt added to them at this time, brings them back to their flat ſhape: But, if the ſalt be not added, the water gradually diſſolves away the veſicle; and then the little ſphere is left naked. Such is the compoſition of theſe particles. I have exhibited theſe experiments to a conſiderable number of my acquaintance, who all agree in their being ſatisfactory.

The microſcope I uſe is a ſingle lens, and therefore as little likely to deceive us as a pair of ſpectacles, which, as is allowed by all who uſe them, do not disfigure objects, but only repreſent them larger.

From farther experiments, I am convinced, that the uſe of the thymus and lymphatic glands, is to make the ſolid middle pieces; and I can prove it in as ſatisfactory a manner as you can do the uſe of any viſcus in the human body; that is, by opening theſe glands, and examining the fluid contained in their cells, which I find to be full of theſe little ſolids. I moreover find, that the lymphatic veſſels take them up from thoſe glands, and convey them into the blood veſſels, which carry them to the ſpleen, in whoſe cells they have the veſicles laid over them; ſo that the thymus and lymphatic glands make the central particles, and the ſpleen makes the veſicles that ſurround them. That this is the uſe of the ſpleen, appears from examining the lymph which is returned from it by its lymphatic veſſels, which are its excretory ducts; for that lymph, contrary to what is obſerved in other parts of the body, is extremely red.

But, beſides having theſe glands ſet a part for making the red veſicles of the blood, I find, that they are alſo made in the lymphatic veſſels in different parts of the body, whoſe coats have blood veſſels properly conſtructed for this ſecretion. So that the thymus and lymphatic glands are no more than appendages of the lymphatic ſyſtem, for making the middle particles; and the ſpleen an appendage to the lymphatic veſſels, for making the veſicles which contain theſe middle particles.

I conjecture that it is the coagulable lymph which is converted into this red part of the blood, from a curious fact that has been long known; namely, that the blood in the ſplenic vein does not coagulate, when expoſed to the air, as the blood of other veins does; ſo that it ſeems to be robbed of its coagulable lymph in paſſing thro' the ſpleen.

It is very remarkable, that the ſpleen can be cut out of an animal, and the animal do well without it. I made the experiment on a dog, and kept him a year and a half, without obſerving his health the leaſt impaired. From this, ſome have concluded the ſpleen to be a uſeleſs weight, which is abſurd; when we conſider, that all animals with red blood have it. Therefore it is more conſiſtent with what we know of the animal oeconomy, to conclude, that, ſince an animal can do well without it, there is probably ſome part of the body that can ſupply its place.

Inſects have veſicles conſtructed in a ſimilar way to ours, but differing in colour. But inſects have neither ſpleen, thymus, nor lymphatic glands; and therefore in them probably theſe veſicles are entirely fabricated in the lymphatic veſſels. But, to us, and other of the more perfect animals, beſides the lymphatic veſſels, nature has given thoſe glands, that a proper quantity of thoſe important veſicles might be the better ſecured to us, juſt as ſhe has given us two ears, the better to ſecure to us hearing through life, though we can hear perfectly well with one.

Thus, my dear friend, I have given you a ſketch of my new opinions. I rather expect from this merely to gratify your longing, than to convince you; for the ſubject is too intricate to be communicated in a letter; but I make no doubt of proving theſe poſitions, when I have leiſure to handle the ſubject more fully. Adieu. Believe me ever

Sincerely your friend,

WM. HEWSON.

Lond. July 19.
1773.

SECT.

SECT. III.

Medical News.

THE nature of phoſphorus, and the method of preparing it, is a ſubject, which of late has much engaged the attention of chymiſts. From the following account, which has been communicated to us by the learned and ingenious Dr Henry Gahn of Stockholm, it appears, that it may be prepared from animal bones: And the proceſs for obtaining it from theſe, is leſs diſagreeable than that formerly practiſed with urine.

In Mr Scheele's paper on the acid of ſpar, it is affirmed, that the earth of animal matter conſiſts of a calcareous ſubſtance, combined with the acid of phoſphorus. This was firſt diſcovered by Mr J. G. Gahn, and has ſince been farther confirmed from new experiments, both by him and by Mr Scheele. They thought of making phoſphorus in this way. But the great difficulty ſeemed to be the ſeparation of the acid from the animal earth. Could this be effected, they imagined it would be eaſy to form a phoſphorus, by combining the acid with ſome inflammable matter.

Calcined hartſhorn, pounded and mixed with charcoal, gave no phoſphorus by diſtillation. This was to be expected, as the ſalt made from the acid of phoſphorus and fixed alkali gives no phoſphorus; and this acid has a ſtill ſtronger attraction to calcareous earth than to alkali.

The eaſieſt method of obtaining this acid ſeemed to be, to digeſt the hartſhorn by the acid of vitriol; and, after that, to waſh off, by water, the acid of phoſphorus which had then got looſe from the earth. But, in this operation, every ſmall particle of the hartſhorn is ſoon covered by a ſelenitical cruſt, which prevents the acid of vitriol from acting any further upon it. From this circumſtance, they were led to think of employing the acid of nitre; although, by uſing it, the proceſs is neceſſarily rendered more complex.

Calcined and well pounded hartſhorn was diſſolved in the acid of nitre, by the aſſiſtance of heat, till the acid could diſſolve no more. This, although a ſaturated ſolution, taſted ſour, which probably depended on the acid of phoſphorus being ſet looſe from the earth, and mixed with the ſolution. This ſolution was diluted with three times its quantity of water; and to it was poured in drops, till no farther precipitation could be obſerved, the acid of vitriol in a ſtate equally diluted. The whole was then filtrated, and the acid well waſhed from the ſelenites, which remained on the filter. What came through the filter, conſiſted of the acid of nitre mixed with the acid of phoſphorus. To get rid of the former, the mixture was put upon the fire to evaporate; and when it began to ſmell of the acid of nitre, it was put into a retort, and diſtilled to dryneſs. The acid of nitre only went over; and what was thus obtained was very fit for uſe in ſimilar trials. What remained dry in the retort was diſſolved in water, by the aſſiſtance of heat, and then filtrated with a view of ſeparating any ſmall particles of ſelenite, which might have remained, and fallen to the bottom during the diſtillation, In this manner the acid of phoſphorus was at laſt obtained by itſelf. To make phoſphorus of this acid, it was again evaporated to the conſiſtence ſyrup, and as much pounded charcoal mixed with it as to make nearly a dry maſs. This was put into a glaſs retort, covered on the outſide with clay, and diſtilled in an open fire, till the whole was red hot. The recipient was filled with water, and the neck of the retort was adapted to it, ſo as nearly to reach the ſurface of the water. Firſt of all, there came over phlegm, then a volatile ſpirit of ſulphur, afterwards a very little ſulphur; and, laſtly, a very clear and good phoſphorus, which fell down in the water in the form of drops.

Leſs heat is required to form ſulphur than phoſphorus. The more ſelenites that remains in the acid, the leſs phoſphorus is got. If calcined hartſhorn, acid of vitriol, and charcoal, be mixed, a conſiderable quantity of ſulphur is obtained on diſtillation, but no phoſphorus. The ſame products are obtained from bones as from hartſhorn.

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The public have lately been favoured with many judicious obſervations on hoſpitals in general, and with a particular detail of the ſucceſs attending the practice of phyſic in different ones. As the ſubject well merits attention, we preſume that a general abſtract of the termination of the diſeaſes of thoſe patients, who, for ſeveral years paſt, have been admitted into the Royal Infirmary at Edinburgh, will be by no means diſagreeable to moſt of our readers.

In the hoſpital, January 1. 1762	109	
Admitted during the years 1762, 3, 4, 5, 6, 7, 8, 9.	6261	
Total	—	6370

Of that number, there were diſmiſſed,

Cured	4394
Relieved	540
For irregularities	106
At their own deſire	732
Incurable	108

Dead

Dead	358	
And there remained in the hoſpital on January 1. 1770	132	
Total	——	6370

State for the Year 1770.

In the hoſpital January 1.	132	
Admitted during the courſe of that year	1170	
Total	——	1302
Of theſe were diſmiſſed,		
Cured	791	
Relieved	188	
For irregularities	23	
At their own deſire	91	
Incurable	7	
Dead	57	
And there remained in the hoſpital January 1. 1771	145	
Total	——	1302

State for the Year 1771.

Number in the hoſpital on January 1.	145	
Admitted during the courſe of that year	1454	
Total ——		1599
Of theſe there were diſmiſſed,		
Cured	1071	
Relieved	206	
For irregularities	11	
At their own deſire	90	
Incurable	12	
Dead	66	
And there remained in the hoſpitai, on January 1. 1772	143	
Total ——		1599

State for the Year 1772.

In the hoſpital on January 1. 1772	143

Admitted

Admitted during the courſe of that year	1447	
Total	——	1590

Of theſe there were diſmiſſed,

Cured	1078	
Relieved	180	
For irregularities	11	
At their own deſire	84	
Incurable	10	
Dead	54	
And there remained in the hoſpital January 1. 1773	173	
Total	——	1599

State for the Year 1773.

In the hoſpital on January 1. 1773	173	
Admitted during the courſe of that year	1709	
Total	——	1882

Of theſe there were diſmiſſed,

Cured	1392	

Relieved	158
For irregularities	5
At their own deſire	39
Incurable	21
Dead	79
And there remained in the hoſpital	188
Total ——	1882

* * * * * * *

Although, from the diverſity of cauſes, by which epilepſy may be induced, it is not to be imagined that any remedy will ever be diſcovered, which can be ſucceſsful in every caſe; yet, it muſt give real pleaſure to every humane practitioner to be poſſeſſed of one, which may be of benefit in ſome caſes. And, although the flowers of zinc have often failed in the hands of the moſt ſkilful practitioners; yet their ſucceſs, in particular inſtances, is too well vouched to remain a matter of doubt. A farther proof of their efficacy is afforded, in a letter from Dr Ruſh at Philadelphia, to Dr Duncan, which contains alſo ſome other articles of medical news.

“ The zinc has ſucceeded in one caſe to my wiſhes. Mr D—— P——, a worthy merchant of this city, had been affected with epileptic fits for ten or twelve years. He was once relieved by a voyage to Britain, where he remained above a twelve-month. Soon after his return, he was attacked with his old diſorder, but with leſs violence than formerly. The ordinary interval between his fits was ſix weeks. At one time only, he eſcaped them for three months. He had taken a variety of medicines from phyſicians of the firſt note, on both ſides of the water, to no purpoſe. It is now fifteen months ſince he began to take the flowers of zinc, during which time, he has had no return of his diſorder, and enjoys, in every reſpect, good health and ſpirits.

“ We have lately had a diſorder among us, which is new in this country. It is the fifth ſpecies of Dr Cullen’s cynanche. Dr Tiſſot deſcribes it in a particular manner in his Advice to the people. It was at firſt miſtaken for the putrid ſore-throat. But the ill ſucceſs, which attended the exhibition of bark and wine in it, ſoon convinced us that it was not of a malignant nature. What led to this miſtake was, that there were ulcers much oftener ſeated in the tonſils than behind the ears; and they were often covered with phlegm, which reſembled ſloughs. I followed ſtrictly Dr Tiſſot's method of cure, that is, I bled in ſevere caſes, vomited, purged, and bliſtered, as the ſymptoms required. I forbid ſtimulating food of all kinds, and kept up a gentle perſpiration, with diluting drinks. This treatment I found ſucceſsful in every caſe to which I was called.

" There is now a ſociety eſtabliſhed in the city of Philadelphia, for innoculating poor children. It conſiſts of twelve managers and eight phyſicians. The former provide medicines, and, in ſome caſes, firewood and other neceſſaries; and the latter inoculate, and attend the poor at their own houſes. The benefit of this inſtitution to the community is great, and the expence and trouble very trifling. The managers receive applications from the poor in their turns. Each phyſician is confined to a particular part of the town, which is moſt contiguous to his dwelling houſe; ſo that the whole is conducted with as much regularity as an hoſpital, without any of its diſadvantages. The ſcheme of this inſtitution was ſuggeſted, by ob-

obſerving, that, in the year 1773, above three hundred people, out of fourteen hundred, died of the ſmall-pox, in the natural way, in this city. The greateſt part of theſe were poor people, who could not afford the expence of inoculation."

* * * * * * *

A gentleman, on whoſe integrity and accuracy our readers may rely, has favoured us with the following account of a curious circumſtance, reſpecting the teeth of a country-labourer. This man, who was an inhabitant of the town of Hawick, in the ſouth of Scotland, loſt all his teeth by the time he arrived at the ſixtieth year of his age. But, about half a year afterwards, a new ſet made their appearance. All of them appeared within the ſpace of twenty days; but, during this time, he ſuffered the moſt excruciating pain. His new ſet of teeth continued freſh and firm for a period of thirty-four years. He is ſtill alive, has entered the ninety-ſixth year of his age, and has all his teeth, excepting three, which he has loſt within theſe two years, one of them very lately.

The

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The royal ſociety of London have conferred their annual gold medal on John Walſh, Eſq; whoſe ingenious obſervations on the electric property of the torpedo appeared in the LXIII. volume of the Philoſophical tranſactions *.

At the annual election of the royal ſociety of London, the officers of laſt year were continued; which was alſo the caſe with the royal college of Phyſicians of Edinburgh.

An ingenious gentleman in York-ſhire, who is at preſent engaged in writing a treatiſe on the ſtudy of natural hiſtory, has, we are informed, invented a new method of preſerving fiſhes and inſects. We have alſo heard, that an eminent phyſician of the city of York has collected many uſeful obſervations on the worms which infeſt the human body; and it is hoped that they will ſoon be publiſhed.

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* Our readers were preſented with an analyſis of that paper in our laſt number.

SECT. IV.

Liſt of New Books.

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THE anatomy of the gravid uterus, exhibited in thirty-four plates. By William Hunter, M. D. phyſician extraordinary to the Queen, profeſſor of anatomy in the royal academy, and fellow of the royal and antiquarian ſocieties. Folio, London.

The commentaries upon the aphoriſms of Dr Herman Boerhaave, the late learned profeſſor of phyſic in the univerſity of Leyden, concerning the knowledge and cure of ſeveral diſeaſes incident to the human body. By Gerard Van Swieten, M. D. tranſlated into Engliſh, vols XV, XVI. XVII, and XVIII. 8vo London.

Les advantages de l'inoculation, et la meilleure methode de l'adminiſtrer, ouvrage traduit de la diſſertation Latine, couronnée par l'academie royale des ſciences, inſcriptions, et belles lettres de Toulouſe, et composé par M. Camper, M. D. profeſſor d'anatomie, de chirurgie, et de medecine dans l'univerſité de Groninguen, des academies de Paris, de Londres, de Harlem, &c. 8vo, Toulouſe.

The hiſtory and effects of the aloedarian drops, an antient medicine; for the decays of early age and ruined conſtitutions; for diſorders of the ſtomach; and for chronic diſeaſes, which thence derive their origin. From the papers of a phyſician. 8vo, London.

Further obſervations on lightning; together with ſome experiments. By Benjamin Wilſon, F. R. S. &c. Communicated to the royal ſociety, and rejected in the committee. 4to, London.

A voyage towards the North Pole, undertaken by his Majeſty's command. By Conſtantine John Phipps. 4to, London.

Obſervations on the uſe of Dr James's powder, and other antimonial preparations in fevers. By William White, F. S. A. and of the medical ſociety of Edinburgh. 8vo, London.

Of temperance and intemperance, their effects on the body and mind, and their influence in prolonging and abbreviating human life. By Edward Harwood. 12mo, London.

The electrical philoſopher, containing a new ſyſtem of phyſics, founded on the principles of an univerſal plenum of elementary fire; wherein the nature of elementary fire is explained, its office pointed out, its extenſive influence and utility in explaining many of the phaenomena of nature ſhewn, and the grand deſideratum, viz. the cauſe of gravity, coheſion, &c. &c. which has been hitherto either entirely given up as inexplicable, or elſe ſought after in vain by the moſt able naturaliſts, is at length obtained by R. Lovett lay-clerk of the cathedral-church of Worceſter. 8vo, Worceſter.

A letter to Dr William Hunter phyſician extraordinary to the Queen, profeſſor of anatomy in the royal academy, and fellow of the royal and antiquarian ſocieties, on the dangerous tendency of medical vanity, occaſioned by the death of Lady Holland. By William Rowley, M. D. and man-midwife. 8vo, London.

Thermis de Borbonienſibus apud Campanos, ſpecimen medico-practicum, ſive de legitimo circa ca illos tractatu practico prolegomena. 4to, Chaumont.

Jacobi Reinboldi Spielman, Doct. et Prof. med. &c. Inſtitutiones materiae medicae praelectionibus academicis accommodatae. 8vo, Straſburg.

Elements de chirurgie en Latin et en François, avec des notes. Par M. Sue le jeune, prevot deſigné du college de chirurgie, adjoint au comité perpetuel de l'academie royale de chirurgie, chirurgien ordinaire de l'hotel de ville, correſpondant de la ſocieté royale des ſciences de Montpellier, &c. 8vo, Paris.

Lettre a M. Roux, docteur regent de la faculté de Paris, &c. Par M. D——— concernant le remede antivenerien de M. Lafont, chirurgien du roi, d'apres les experiences faites par ordre de de M. le Lieutenant-general de police. 8vo, Amſterdam.

Memoire chymique et medecinal ſur les principes et les vertus des eaux minerales de Contrexeville en Lorraine. Par M. Thouvenel, docteur en medecine de la faculté de Montpellier. 12mo, Nancy.

Diſſertation ſur l'uſage des cauſtiques pour la gueriſon radicale et abſolue des hernies, ou deſcentes, de facon a n'avoir plus beſoin des bandages pour le reſte de la vie. Par M. Gauthier, counſeiller-medecin du Roi, docteur-regent de la faculté de medecine de Paris, et medecin de Montpellier. 12mo, Paris.

De proctoſtenia, ſeu morboſis inteſtini recti anguſtiis, diſſertatio medica, quam in Ludoviceo Monſpelienſi propugnabat author Ludovicus Franciſcus Jourdam Duchadoz. 4to, Montpellier.

Raport fait par ordre de l'academie des ſciences, ſur la mort du Sieur le Maire, et ſur celle de ſon epouſe, cauſées par la vapeur du charbon; avec des obſervations ſur les effets des vapeurs mephitiques ſur le corps de l'homme, et ſur le moyen de rapeller a la vie ceux qui en ont été ſuffoques. Par M. Portal, profeſſeur en medecine au college royale, medecin de M. le Comte d'Artois, de l'academie des ſciences de Paris, de l'inſtitut, de Bologne, de la ſocieté royale de ſciences de Montpellier, et de la ſocieté medicale d'Edinbourg. 8vo, Paris.

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